

CLAIMS

We claim:

1. A suspension for coupling a steer axle assembly to a vehicle frame having first and second longitudinal frame rails, comprising:

a body coupled to an axle beam of said steer axle assembly;

a first arm extending from said body, said first arm coupled to said frame at one end and pivotable about a pivot axis disposed proximate said one end and extending transversely to said first and second longitudinal frame rails; and,

a first guide member connected to said body and received within an aperture defined by a bracket of said frame wherein said aperture is configured to limit lateral movement of said first guide member and said axle beam relative to said first and second longitudinal frame rails, but allow vertical movement of said first guide member and said axle beam relative to said first and second longitudinal frame rails.

2. The suspension of claim 1, further comprising a spring disposed between said axle beam and said frame and supported by a spring seat defined by said body.

3. The suspension of claim 1, further comprising a second arm extending from said body in a substantially opposite direction from said first arm; and,
a spring disposed between said second arm and said frame.

4. The suspension of claim 1, further comprising a second arm extending from said body in a substantially opposite direction from said first arm; and,
a shock absorber having an eye supported on a rod extending from said second arm.

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5. The suspension of claim 1, further comprising a second guide member disposed within said aperture in said bracket, said second guide member defining an opening configured to receive said first guide member.

6. The suspension of claim 5 wherein said first guide member is rotatable within said second guide member.

7. The suspension of claim 5, further comprising means for limiting fore-aft movement of said first guide member relative to said second guide member.

8. The suspension of claim 7 wherein said limiting means includes a snap ring disposed within a groove in said first guide member.

9. The suspension of claim 1 wherein said first arm includes a leaf spring.

10. The suspension of claim 1 wherein said first guide member is rotatable within said aperture of said bracket.

11. The suspension of claim 1 wherein said body includes first and second legs disposed on opposite sides of said bracket and configured to receive said first guide member.

12. The suspension of claim 11, further comprising means for limiting fore-aft movement of said first guide member.

13. The suspension of claim 12 wherein said limiting means includes a snap ring disposed about said first guide member and abutting one of said first and second legs.

14. The suspension of claim 1 wherein said bracket and said first guide member are disposed at least partially above said axle beam.

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15. The suspension of claim 1 wherein said bracket and said first guide member are disposed on one side of said axle beam.

16. A suspension for coupling a steer axle assembly to a vehicle frame having first and second longitudinal frame rails, comprising:

a body coupled to an axle beam of said steer axle assembly; and,

a first arm extending from said body, said first arm coupled to said frame at one end and pivotable about a pivot axis disposed proximate said one end and extending transversely to said first and second longitudinal frame rails; and,

means for limiting lateral movement while permitting vertical movement of said body and said axle beam relative to said first and second longitudinal frame rails.

17. The suspension of claim 16 wherein said means for limiting lateral movement while permitting vertical movement includes:

a bracket connected to one of said first and second longitudinal frame rails and defining an aperture; and,

a male guide member coupled to said body and configured to be received within said aperture.

18. The suspension of claim 17 wherein said means for limiting lateral movement while permitting vertical movement further includes a female guide member disposed within said aperture, said female guide member fixed against rotation relative to said bracket and defining an opening, said male guide member received within said opening in said female guide member and rotatable relative to said bracket and said female guide member.

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19. A steer axle and suspension assembly for a vehicle including a vehicle frame having first and second longitudinal frame rails, comprising:

a steer axle assembly including:

an axle beam extending transversely to said first and second frame rails, said axle beam defining a bore at one end;

a kingpin disposed within said bore; and,

a steering knuckle supported on said kingpin; and,

a suspension including

a body coupled to said axle beam of said steer axle assembly;

a first arm extending from said body, said first arm coupled to said frame at one end and pivotable about a pivot axis disposed proximate said one end and extending transversely to said first and second longitudinal frame rails; and,

a first guide member connected to said body and received within an aperture defined by a bracket of said frame wherein said aperture is configured to limit lateral movement of said first guide member and said axle beam relative to said first and second longitudinal frame rails, but allow vertical movement of said first guide member and said axle beam relative to said first and second longitudinal frame rails.

20. The steer axle and suspension assembly of claim 19, further comprising a second guide member disposed within said aperture in said bracket and fixed against rotation relative to said bracket, said second guide member defining an opening configured to receive said first guide member wherein said first guide member is rotatable relative to said bracket and said second guide member.